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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/687,766	10/20/2003	Johannes A. Pardoen	117553	9570

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EXAMINER	
SHOSHO, CALLIE E	
ART UNIT	**PAPER NUMBER**
1714	

DATE MAILED: 03/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/687,766	PARDOEN ET AL.	
	Examiner	Art Unit	
	Callie E. Shosho	1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10/20/03 & 11/19/03*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10 and 13-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10 and 13-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☒ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2/5/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Europe on 10/29/02. It is noted, however, that applicant has not filed a certified copy of the application as required by 35 U.S.C. 119(b).

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 6-7, 9-10, and 13-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

(a) Claim 6, which depends on claim 1, recites the limitation "the -OH groups" in line 2. There is insufficient antecedent basis for this limitation in the claim given that there is no disclosure of –OH groups in claim 1.

(b) Claim 6 recite "-OH groups which are present after the first step are reacted to attach a matrix-compatible moiety with molecular weight of more than 250 to said intermediate, with said further step being conducted either between the first and second steps or, preferably, after the second step.

The scope of the claim is confusing given that, as set forth in claim 1, the intermediate is not formed until after the second step and thus, it is not clear how the matrix-compatible moiety can be attached to the intermediate if the further step is conducted between the first and second step given that the intermediate is not yet formed. Clarification is requested.

(c) A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 6 recites the broad recitation "further step being conducted between the first and second steps", and the claim also recites "preferably, after the second step" which is the narrower statement of the range/limitation.

(d) Claim 7, which depends on claim 5, recites the limitation "the -OH groups" in line 1. There is insufficient antecedent basis for this limitation in the claim given that there is no disclosure of –OH groups in claim 5.

(e) Claim 7 recites "other suitable conventional reactants". The scope of the claim is confusing because it is not clear what is meant by "suitable" or "conventional" or what types are reactants are encompassed by this phrase.

(f) Claim 7 recites that -OH groups are reacted with compounds "to form polyester, to form matrix compatible linear or branched, substituted or unsubstituted C_4-C_{30} alkyl, polyester, polyether, polyetherester, or polyesterether groups". The scope of the claim is confusing because it is not clear what is formed polyester, matrix compatible linear or branched, substituted or unsubstituted C_4-C_{30} alkyl, polyester, polyether, polyetherester, or polyesterether groups, or both. Clarification is requested.

(g) A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or

doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 7 recites the broad recitation "substituted or unsubstituted" and the claim also recites "preferably unsubstituted" which is the narrower statement of the range/limitation.

(h) Claim 9 recites R^1, R^2, R^3, and W are "as defined above in formula I". However given that claim 9 is an independent claim, the scope of the claim is confusing because it is not clear where "above" refers to or what formula I is being referred to. It is suggested that applicants explicitly recite the specific groups for each of the substituents.

(i) Claim 10 recites polyamine derivative "obtainable" by a process according to claim 1. The scope of the claim is confusing in light of the word "obtainable" given that it is not clear if the polyamine is actually obtained from the process of claim 1 or only has the capability to do so. It is suggested that "obtainable" is changed to "is obtained".

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-10 and 13-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Schipfer et al. (U.S. 4,563,515).

Schipfer et al. disclose process comprising reacting polyamine having primary and secondary amino groups with hydroxy carboxylic acid or lactone to form product, i.e. polyamine derived compound, which is then reacted with epoxy resin having at least 2 epoxy groups, i.e. bifunctional amine specific reagent, and amine modifier such as N,N-dimethyl-1,3-propanediamine, i.e. corresponding to modifier of presently claimed formula III, to form intermediate product. There is also disclosed further step wherein the intermediate product is reacted with polycaprolactone which would inherently attach a matrix compatible moiety to form product, i.e. polyamine derivative. It is disclosed that the epoxy groups of the epoxy resin are reacted with the secondary amine in a ratio of 0.1-1 NH groups per available epoxy group. There is also disclosed coating composition, i.e. paint, containing the above polyamine derivative. Attention is drawn to col.5, lines 35-44 of Schipfer et al. which discloses reacting 1 mole diethylene triamine (DETA) with 2.1 moles caprolactone (CPL) to form amine which is then reacted in example 4 with epoxy resin (col.1, line 61-col.2, line 44, col.2, line 67-col.3, line 17, col.3, lines 42-53 and 59-60, col.3, line 66-col.4, line 16, col.5, lines 35-44, and col.8, lines 28-38).

Given that the process of Schipfer et al. includes reaction with both bifunctional amine-specific reagent and amine modifier as presently claimed, it is clear that in the second step, an intermediate containing at least one polyamine residue and at least one amine modifier residue is inherently formed which would be linked by the bifunctional

amine-specific reagent. Further, although there is no specific formula given for the polyamine derivative, given that Schipfer et al. disclose process as presently claimed, it is clear that the polyamine derivative would inherently possess structure as set forth in presently claimed formula II. Additionally, although there is no disclosure that the intermediate or polyamine derivative is a pigment dispersant, given that the intermediate and polyamine derivative is each formed by identical process as presently claimed, it is clear that the intermediate and polyamine derivative would each inherently function as a pigment dispersant.

While there is no disclosure that the coating composition is a printing ink formulation as presently claimed, applicants attention is drawn to MPEP 2111.02 which states that "if the body of a claim fully and intrinsically sets forth all the limitations of the claimed invention, and the preamble merely states, for example, the purpose or intended use of the invention, rather than any distinct definition of any of the claimed invention's limitations, then the preamble is not considered a limitation and is of no significance to claim construction". Further, MPEP 2111.02 states that statements in the preamble reciting the purpose or intended use of the claimed invention must be evaluated to determine whether the purpose or intended use results in a structural difference between the claimed invention and the prior art. Only if such structural difference exists, does the recitation serve to limit the claim. If the prior art structure is capable of performing the intended use, then it meets the claim.

It is the examiner's position that the preamble does not state any distinct definition of any of the claimed invention's limitations and further that the purpose or

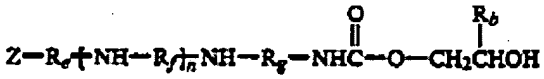
intended use, i.e. printing ink, recited in the present claims does not result in a structural difference between the presently claimed invention and the prior art composition and further that the prior art structure which is a composition identical to that set forth in the present claims is capable of performing the recited purpose or intended use.

In light of the above, it is clear that Schipfer et al. anticipate the present claims.

6. Claims 1-2, 5, 9-10, 14-15, and 17-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Jacobs, III et al. (U.S. 4,897,435).

Jacobs, III et al. disclose process wherein one or more polyamines such as triethylenemine is reacted with cyclic carbonate to form product, i.e. polyamine derived compound, which is then reacted with multifunctional epoxy compound, i.e. bifunctional amine-specific reagent to form an intermediate product. There is also disclosed coating composition comprising the above intermediate product (col.1, lines 8-10, col.2, lines 15-28 and 35-45, col.2, line 56-col.3, line 5, col.3, line 30-col.4, line 25, col.4, lines 47-55, col.5, line 62-col.6, line 9, col.6, lines 55-63, col.7, lines 54-56, and col.10, lines 6-12). Given that Jacobs, III et al. disclose reaction with bifunctional amine-specific reagent as presently claimed, it is clear the intermediate would inherently possess at least two polyamine residues linked by the bifunctional amine-specific reagent as presently claimed.

With respect to present claim 9, it is further noted that Jacobs III, et al. disclose that the polyamine is reacted with cyclic carbonate to form product (col.4, line 3) including that of the formula:



wherein Z is hydrogen or OH, R_e is C_1-C_6 straight chain hydrocarbon, R_g is C_1-C_6 straight chain hydrocarbon, R_b is hydrogen or methyl group, and n is 0 which product is then reacted with epoxy compound, i.e. corresponding to presently claimed substituent L, which would necessarily produce polyamine derivative of presently claimed formula II.

In light of the above, it is clear that Jacobs III et al. anticipate the present claims.

7. Claims 1-7, 9-10, 14-15, and 17-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Honel et al. (U.S. 5,055,542).

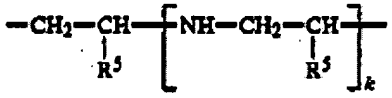
Honel et al. disclose process wherein polyamine of the formula A-(R_6NH)-R_6B wherein A and B are each NH_2 or OH provided that at least one represents NH_2, R_6 is C_2-C_{18} alkylene, and p is 0-1 is reacted with compound containing cyclic carbonate group in a first step which product, i.e. polyamine derived compound, is then reacted with epoxide, i.e. matrix compatible moiety, which is then reacted with polyisocyanate, i.e. bifunctional amine-specific reagent, to form product, i.e. polyamine derivative. It is disclosed that 0.8-1.5 equivalents polyamine is reacted per 1 equivalent cyclic carbonate while 0-2 equivalents polyisocyanate are used per mol polyamine derived compound. It is further disclosed that the polyamine derivative functions as a pigment dispersant. There is also disclosed coating comprising the polyamine derivative (col.3, lines 39-48 and 54-68, col.4, lines 56-63, col.8, lines 35-40 and 3-55, col.9, lines 1-2 and 13-18, col.10, lines 31-

52, col.11, lines 12-23, and col.12, lines 9-12). Given that Honel et al. disclose reaction with bifunctional amine-specific reagent as presently claimed, it is clear the product would inherently possess at least two polyamine residues linked by the bifunctional amine-specific reagent as presently claimed. Further, although there is no specific formula given for the polyamine derivative, given that Honel et al. disclose process as presently claimed, it is clear that the polyamine derivative would inherently possess structure as set forth in presently claimed formula II.

In light of the above, it is clear that Honel et al. anticipate the present claims.

8. Claims 1, 3, 5, 10, and 17-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Engel et al. (U.S. 4,758,615).

Engel et al. disclose process wherein polyamine of the formula $H_2N\text{-}R\text{-}NH_2$ wherein R is:



wherein R^5 is hydrogen or methyl group and k is 1-5 is reacted with cyclic carbonate group in a first step which product, i.e. polyamine derived compound, is then reacted with anhydride of polycarboxylic acid, i.e. bifunctional amine-specific reagent, which is then reacted with amine to form intermediate product. There is also disclosed coating composition comprising the intermediate product (col.1, lines 6-11, col.2, lines 61 and 67-68, col.3, lines 10-15, col.5, liens 39-48 and 57-67, col.6, lines 3-9, 14-16, and 40-42,

col.11, lines 43-55 and col.11, line 64-col.12, line 12). Given that the process of Engel et al. includes reaction with bifunctional amine-specific reagent as presently claimed, it is clear that the intermediate would inherently possess at least two polyamine residues that would be linked by the bifunctional amine-specific reagent as presently claimed. Additionally, although there is no disclosure that the intermediate is a pigment dispersant, given that the intermediate is formed by identical process as presently claimed, it is clear that the intermediate would inherently function as a pigment dispersant.

In light of the above, it is clear that Engel et al. anticipate the present claims.

9. Claims 1-2, 5, 10, and 16-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Honig et al. (U.S. 5,369,190).

Honig et al. disclose process comprising reacting polyamine with cyclic carbonate to form hydroxyl-functional carbamate compound, i.e. polyamine derived compound, which is then reacted with diisocyanate, i.e. bifunctional amine-specific reagent, to form intermediate product. Attention is drawn to Table that disclosed reacting 2 mol diethylene triamine (DETA) with 3 mol ethylene carbonate which product is then reacted with diisocyanate as seen in Table 3 (col.1, lines 48-63, col.2, lines 13-20 and 32-48, and col.2, line 67-col.3, line 9). Given that Honig et al. disclose reaction with bifunctional amine-specific reagent as presently claimed, it is clear the intermediate product would inherently possess at least two polyamine residues linked by the bifunctional amine-specific reagent as presently claimed.

Although there is no disclosure in Honig et al. that the intermediate is a pigment dispersant, given that the intermediate is formed by identical process as presently claimed, it is clear that the intermediate would inherently function as a pigment dispersant.

While there is no disclosure that the coating composition is a printing ink formulation as presently claimed, applicants attention is drawn to MPEP 2111.02 which states that "if the body of a claim fully and intrinsically sets forth all the limitations of the claimed invention, and the preamble merely states, for example, the purpose or intended use of the invention, rather than any distinct definition of any of the claimed invention's limitations, then the preamble is not considered a limitation and is of no significance to claim construction". Further, MPEP 2111.02 states that statements in the preamble reciting the purpose or intended use of the claimed invention must be evaluated to determine whether the purpose or intended use results in a structural difference between the claimed invention and the prior art. Only if such structural difference exists, does the recitation serve to limit the claim. If the prior art structure is capable of performing the intended use, then it meets the claim.

It is the examiner's position that the preamble does not state any distinct definition of any of the claimed invention's limitations and further that the purpose or intended use, i.e. printing ink, recited in the present claims does not result in a structural difference between the presently claimed invention and the prior art composition and further that the prior art structure which is a composition identical to that set forth in the present claims is capable of performing the recited purpose or intended use.

In light of the above, it is clear that Honig et al. anticipate the present claims.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

JP 09-157374 discloses reacting aromatic polyamine with lactone containing polyester wherein the aromatic polyamine is formed by reacting polyamine and hydroxycarboxylic acid, however, there is no disclosure of reaction with at least bifunctional amine-specific reagent as required in the present claims.

Hoenel et al. (U.S. 5,935,710) disclose reacting polyamine with cyclic carbonate to form aminourethane which is then reacted with amine and epoxy.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 571-272-1123. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Callie E. Shosho
Primary Examiner
Art Unit 1714

CS
3/16/06